DOCUMENT RESUME

ED 104 900 TM 004 342

TITLE	Local District and School Report: Explanatory Materials. The Third Report of the 1972-73 Michigan Educational Assessment Program.
INSTITUTION	Michigan State Dept. of Education, Lansing. Research, Evaluation, and Assessment Services.
PUB DATE	Apr 73
NOTE	54p.; For related documents, see TM 004 339-341 and 555-556
EDRS PRICE	MF-$0.76 HC-$3.32 PLUS POSTAGE
DESCRIPTORS	Academic Achievement; Achievement Tests; Cognitive Development; Comparative Statistics; *Educational Assessment; Educational Status Comparison; Elementary Education; Elementary School Students; Norms; School Districts; Scores; *State Programs; Statistical Analysis; *Testing; *Test Interpretation
IDENTIFIERS	*Michigan Educational Assessment Program

ABSTRACT

The purpose of this booklet is to assist the reader in understanding and utilizing the local district and local school reports provided by the Michigan Educational Assessment Program for the testing period January 1973. This document accompanies the data sheets and norm tables provided to each district and is intended to facilitate their use. This booklet has three sections: the first section states precautions which must be considered in using and interpreting the assessment data; the second section lists the assessment measures and introduces the computer printouts which contain the local district and school data; and the third section describes the norm tables that are provided with this report and explains how to construct and interpret district-level and school-level education profiles. (Author/DEP)

ED104900

LOCAL DISTRICT AND SCHOOL REPORT: EXPLANTORY MATERIALS

The third report of the 1972-73 Michigan
Educational Assessment Program

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRO
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRE
SENT OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY

TM 004 342

Prepared by Research, Evaluation and Assessment Services

Michigan Department of Education

April, 1973

R/3

FOREWORD

The Michigan Educational Assessment Program (MEAP) was initiated by the State Board of Education, supported by the Governor, and enacted by the Legislature initially through Act 307 of the Public Acts of 1969 and subsequently under Act 38 of the Public Acts of 1970.

The purpose of this report, the third in the 1972-73 series, is to provide local school district officials with information regarding their own school district and its schools.

Assessment of educational needs is the third step of a six-step process adopted by the State Board of Education as a guide or model for improving Michigan education. The assessment information in this report can assist local district officials in making local decisions regarding the allocation of resources and the design of educational programs. It also provides a general indication of areas within the local school district which may need closer study. Specific evaluations of the areas so identified can be initiated by local school people.

Thanks are due to a large number of individuals and groups for making the Michigan Educational Assessment Program a reality and for supporting it through its first four years. Michigan educators have given particularly valuable assistance. The program was designed and administered by the Research, Evaluation and Assessment Services, Michigan Department of Education, with the assistance of Educational Testing Service of Princeton, New Jersey, and the counsel of the MEAP Advisory Council.

This report was prepared by Mr. Robert Huyser, Dr. Thomas Fisher, and Mrs. June Olsen under the guidance of Dr. David Donovan and Dr. Philip Kearney. Questions or requests for additional information relative to this report should be directed to the educational assessment staff.

John W. Porter
Superintendent of
Public Instruction

TABLE OF CONTENTS

SECTION		PAGE
	INTRODUCTION	1
I.	PRECAUTIONS AND STATISTICAL TERMS NECESSARY FOR THE INTERPRETATION OF THE EDUCATIONAL ASSESSMENT DATA	3
	Precautions in the Use of Assessment Data	3
	Statistical Terms	9
II.	LISTING OF EDUCATIONAL ASSESSMENT MEASURES AND A DESCRIPTION OF THE DISTRICT AND SCHOOL REPORTS	14
	Listing of Educational Assessment Measures	14
	Description of the District and School Reports	16
III.	NORM TABLES AND EDUCATION PROFILES	20
	Explanation of the Norm Tables	20
	Uses of Education Profiles	26
APPENDIX A.	LISTING OF MICHIGAN SCHOOL DISTRICTS CLASSIFIED BY MAJOR COMMUNITY TYPE SERVED	31
APPENDIX B.	DEFINITIONS OF THE EDUCATIONAL ASSESSMENT MEASURES	40

INTRODUCTION

The purpose of this booklet is to assist the reader to understand and utilize the local district and local school reports provided by the Michigan Educational Assessment Program for the testing period January, 1973. This document accompanies the data sheets and norm tables provided to each district and is intended to facilitate their use (see TABLES II and III of the text).

By following the procedures described in this booklet, local school officials will be able to construct education profiles which will enable them to relate the assessment results for their district and schools to the results obtained by groups of other districts and schools throughout Michigan and in the same community.[1] These profiles will also enable school officials and citizens to identify the levels of educational performance in selected basic skills and the levels of selected non-achievement measures in their district and schools.

This explanatory booklet has three sections.

1. The first section states precautions which must be considered in using and interpreting the assessment data. It also defines certain statistical terms which are used in reporting the data.

2. The second section lists the assessment measures and introduces the computer printouts which contain the local district and school data.

---

[1]The community type definitions and classifications used in the 1972-73 Michigan Educational Assessment Program were determined in the fall of 1971 and employ 1970 U.S. Census data. These definitions and a list of districts by community type can be found in APPENDIX A of this booklet.

3. The third section describes the norm tables that are provided with this report and explains how to construct and interpret district-level and school-level education profiles.

APPENDIX A contains a listing of Michigan school districts classified according to community type; APPENDIX B contains definitions of the educational assessment measures.

SECTION I

PRECAUTIONS AND STATISTICAL TERMS NECESSARY FOR THE INTERPRETATION OF THE EDUCATIONAL ASSESSMENT DATA

The data presented in the school and district printouts that accompany this booklet can help identify pupil and school building educational needs and, therefore, when used along with other needs assessment data, can lead to improved educational decision-making at the local level. This section of the report is divided into two parts. The first part states several precautions which must be taken in the construction and interpretation of the education profiles. The second part defines selected statistical terms which the reader will need to know in order to interpret the data.

Precautions in the Use of Assessment Data

Relationships Among Educational Assessment Variables

Past research has indicated that certain characteristics of students' background (i.e., their relative socioeconomic status, attitudes, and aspirations) and the qualities of the instructional staff are related to achievement. In addition, available information has shown that the amount of financial resources spent by a district bears a relationship to achievement levels because schools with more financial resources are generally able to provide a greater variety of instructional programs and support for the teaching staff.[2]

---

[2]For a report and discussion of research which deals with the influence of non-school factors, e.g., socioeconomic status and attitudes and aspirations, refer to Research into the Correlates of School Performance: A Review and Summary of Literature. (Lansing, Michigan: Michigan Department of Education, Assessment Report No. 3, 1970).

These conclusions have been derived from studies of large samples of school districts and schools. It must not be assumed however that the relationships among achievement and other variables would be apparent in the reports of all individual districts and schools. Moreover, causal relationships have not yet been substantiated by the previous research or by the Michigan Educational Assessment Program data. While causality may actually exist, the present data are not sufficient to demonstrate it.

Appropriateness of the Test to Local Programs

The educational assessment results provide a general measure of the basic skills achievement levels of each pupil compared to the basic skills achievement levels of all pupils throughout the state. In assembling the assessment battery an effort has been made to focus on the broader outcomes sought by all schools in reading, the mechanics of written English, and mathematics. However, regardless of how representative the test questions may be, they may not match the programs of every district and school equally well. A poor fit between a sub-test's content and a particular school's program in that subject may tend to lower the scores of pupils on the sub-test and on composite achievement, hence lowering the school's and district's mean scores as well. Conversely, a better-than-average fit may raise the scores and averages.

Assessment vs Evaluation

The reader should bear in mind that the Michigan Educational Assessment Program is not intended as an evaluation of Michigan schools. That is, it does not indicate which schools or districts are most effective or efficient in helping students to realize their potential. The MEAP

data are intended as an assessment of educational need--a search for districts with large numbers of pupils who need special assistance to improve their achievement in the basic skills.

A high-scoring district may not be an efficient or effective district. Its high average scores may result from having highly advantaged and able students in attendance. Other districts whose test score averages are lower may actually be more effective and efficient at carrying out the work that they have to do.

In either case--assessment or evaluation--the MEAP data should not really be expected to stand alone. For local district purposes, additional data are needed to supplement the results of the Assessment Program. These data (e.g., local test results, population mobility, parent educational level, community aspirations, etc.) are necessary to validate areas of need, to further delineate areas of need, or to provide an adequate evaluation of the schools if that is, indeed, desired.

Accuracy of District and School Means

District and school means can be subject to error for a variety of reasons. Two reasons in particular should be noted. First, when making interpretations of assessment data it is important to bear in mind the magnitude of possible errors that may creep into the measures used, thus lowering their ability to produce meaningful and trustworthy information. For example, a district or school mean in reading will tend to contain little error if the group of pupils taking the test in a district or school is large. But if the number of pupils tested in a district or school is small--say thirty--the absence of a few good readers from the testing could have an effect on the mean reading score for that district or school. Lack of representativeness in the mean scores of a district or school may also

arise from the variation in performance from grade to grade that may occur in small districts or schools. Thus, to the extent that the grades tested are not typical of the general school enrollment, the results will not faithfully reflect the performance of all pupils in the district or school. (This type of error is known statistically as the standard error of the mean due to sampling among test participants.)

A second potential source of error in district and school means is unreliability in the individual scores upon which the means are based. (This type of error reflected in the school or district average, is known as the standard error of the mean due to errors of measurement.) Since the basic skills achievement test scores reported in the MEAP are accurate enough to warrant reporting individual pupil scores the group score averages are quite accurate; indeed, they are highly accurate for large groups.

However, an individual's score is not perfectly reliable; that is, he could not be expected to obtain exactly the same score if he took the same test a second or third time. In the same way, the school or district average should not be thought of as being exact (a point score or single value) but rather as a band which probably contains the school or district average. Such bands were reported to go with district averages for the January, 1972, test administration were reported in the booklet Local District Results: the Fourth Report of the Michigan Educational Assessment Program, 1971-72, and an explanation of these score bands was contained in that report. The local district and school averages for the January, 1973, test administration are subject to the same phenomenon but have not been reported in that mode in the reports which accompany this booklet (see TABLE II and III). However, the Local District Results booklet for the

1972-73 program will include such calculations.

Safeguards Against Error

Great care is taken to prevent errors in preparing assessment reports. Steps are included to confirm the accuracy of scoring the tests, converting to standard scores, matching with data from state records, and mailing reports. Although these steps prevent most errors, a remote possibility exists that a specific error will escape detection. If you find reason to question any part of your report, please contact a member of the Assessment Program staff. Because of space limitations, it is impossible for Educational Testing Service to retain answer sheets indefinitely. Therefore, questions about the accuracy of means based on pupil scores must be raised within nine months after the testing.

Comparisons with Previous Educational Assessment Results

In prior years, the educational assessment test results could only be interpreted relative to the results of other districts, schools, or pupils in the state for that year. A school's reading average at the 65th percentile meant only that the school scored higher than 65 percent of the other schools participating in the assessment tests that year. Since the tests given each year were different, one could not confidently make year-to-year comparisons to conclude, for example, that students from 1971-72 scored higher (or lower) than those of 1970-71.

With the publication of the study entitled The Equating Report: Year-to-Year Analysis of the Cognitive Tests of the Michigan Educational Assessment Program 1970-72 (scheduled for release in the spring, 1973), longitudinal comparisons are possible. The results of 1972-73 have been calculated and reported in terms of "equated scores" (refer to the section on definitions of terms) thus making them useful for longitudinal comparisons also.

Construction of Norm Tables

The prime reference group for interpreting district mean scores and other data aggregated at the district level should be similar data on all K-12 districts in the state as reflected in the district norm tables. Similarly, the prime reference group for interpreting school mean scores and other data aggregated at the school level should be similar data on all schools testing at the appropriate grade level in Michigan K-12 districts as reflected in the school norm tables.

In constructing the education profiles, care should be taken not to plot school mean scores on district norm tables or district mean scores on school norm tables nor to plot them on tables for the wrong grade level. Since the norming populations are different, a mean score falls at a different percentile on the school norm table than on the district table and on the tables for different grade levels. Thus the district's or school's education profile could be inadvertently misrepresented and interpreted incorrectly. Furthermore, only the district norm table provides information for interpreting all of the data aggregated at the district level.

Additional understanding of district and school means can be obtained by also consulting a table of pupil norms. With a table of pupil norms one can answer the question: "Where would a pupil rank among other pupils if he had a standard score equal to our district or school mean?" Since most standardized test publishers provide only pupil norms for interpreting scores, percentile rank comparisons of results from the Assessment Program with other standardized tests will be appropriate only in terms of pupil norms. Pupil norm tables have not been included in the packet of district and school results forwarded to each district but will be available shortly thereafter.

The reader should understand that the MEAP offers norms based upon all K-12 participating districts, all participating schools in K-12 districts, all participating public school pupils, and all participating districts of similar community types. These differentiated norms are all useful for placing the school and district results into a perspective--they add different dimensions to any interpretation of the results.

As a final note, the pupil standard scores on the MEAP tests span the range from roughly 20 to 80. As is the case with other standarized tests, the range of the school and district mean scores is narrower. This narrower range of means should not be surprising since mean scores fall near the middle of a group of scores.

Statistical Terms

Statistical terms used in this report are defined below to assist the reader in interpreting the data. These definitions are substantively the same as used in prior educational assessment program reports except for the addition of the term "equated score."

Mean

A mean score is an average of a set of scores and is obtained by adding all of the scores in the set and dividing the sum by the total number of scores.

Median

The median is that point in a range of scores above which are exactly half the scores and below which are the other half. Thus, the median is that point in the "middle" of a distribution of scores.

Standard Deviation

In addition to establishing a mean for a distribution of scores, it is often useful to know the "spread" of the scores. Two groups of scores could have the same mean but the "spread" still be quite different. For example, one district might have pupils whose scores on composite achievement cluster close together and have a mean of fifty. In this district, the "spread" of scores would be small. Another district might have a number of pupils with high scores and a number of pupils with low scores and still have a mean of fifty. In this district, however, the "spread" of scores would be large.

One common way of indicating the "spread" of scores is to calculate a standard deviation. The standard deviation will indicate how much "spread" there is in the distribution of scores on which it was calculated. In the familiar, bell-shaped "normal" distribution, about two-thirds of the scores will fall between one standard deviation above and one standard deviation below the mean. The larger the standard deviation, the larger will be the "spread" or variability in the scores of a distribution. In the example above, the district with the mixture of high and low scores would have a larger standard deviation than would the district with scores that fell close together. It should also be noted that a distribution of district mean scores has a smaller standard deviation than a distribution of school or pupil scores.

Standard Scores

Standard scores are derived from the number correct, called "raw" scores, using the mean and standard deviation. In the Michigan Educational Assessment Program, standard scores were developed each year prior to 1972-73 so that a pupil's scores on the different tests could be expressed

in similar units for ease in comparison. Pupil scores are expressed in units that yield a mean of 50 and a standard deviation of ten when computed for all public school pupils at the same grade level. For example, a pupil with a standard score of 40 on reading would be one standard deviation below the state mean; a pupil with a standard score of 60 would be one standard deviation about the mean; a pupil with a standard score of 65 would be one and one-half standard deviations above the mean, and so forth.

Equated Standard Scores

Each year of the MEAP from January, 1970, to January, 1972, the raw scores were converted to standard scores having a mean of 50 and a standard deviation of 10. That is, new and different conversions were developed each year. This was necessary in part because each year of the Program (including 1973) some changes in test content were made. Thus, longitudinal comparisons of results were not possible. But this year as a result of equating, year to year comparisons are possible.

"Equating" is a process whereby the standard scores from tests which are different but measure the same quality are mathematically converted to a common base scale. The base scale can be any scale, but in the case of the MEAP, the one used in January, 1970, was selected. Thus, after equating, the equated standard scores from January 1971, 1972 and 1973 can be used to make longitudinal comparisons relative to the January, 1969, base year.

For the test scores of January, 1970, no equating operations are necessary since 1970 is the base year. For the scores of January, 1971, and 1972, equating must be done by the local district utilizing the equating report (see page 7). The pupil, school, and district results from January, 1973, have been presented to the local district in equated units. No further conversions are necessary!

The reader may wish to refer to the booklet Individual Pupil Report: Explanatory Materials: the Second Report of the 1972-73 Michigan Educational Assessment Program for further explanations of equated scores.

Percentile Distribution

A percentile distribution is a ranking of entries (e.g., scores, ratios, means, etc.) which is divided into 100 equal parts. Each part has an equal number--one percent--of the total number of entries. For example, a district mean score at the 50th percentile in a distribution of district mean scores would be at the median--or middle--of the distribution. A district score at the 75th percentile would be above 75 percent--and below 25 percent--of the district mean scores in the distribution. In a typical distribution, 50 percent of the scores are above--and 50 percent are below--the median.

In each year of the MEAP from January, 1970, through January, 1972, fresh score distributions were calculated for pupils, schools and district. Thus, each year's norms tables reflected the distribution of scores for that particular year.

For the January, 1973, test results, new score distributions were again calculated. However, these distributions were calculated on the basis of equated scores. Hence, a local district or local school average of, for example, 52.0 could be interpreted against the 1973 norms to gain an understanding of the score relative to the most recent test administration or against the 1970 norms to gain an understanding of the score relative to the earliest test administration.

Decile Distribution

A decile distribution is a ranking of scores which is divided intc ten equal parts. Each part has an equal number--ten percent--of the total number of scores. When deciles are computed on a statewide basis, ten percent of the state's pupils will fall into each decile. Pupils in the first decile on composite achievement constitute the lowest scoring ten percent of the pupils tested throughout the state. Pupils in the tenth decile on composite achievement constitute the highest ten percent of the pupils tested. District and school decile distributions are valuable because they can show whether the scores of pupils in the district or school are concentrated in one part of the score distribution or another, or scattered more evenly throughout the range of possible decile scores.

As a modification of past practices, the decile tables presented in this report in TABLES II and III include the equated standard score range of each decile. This will enable the local educator to determine the distribution of student scores attained within the local school district and schools in equated standard score units as well as in deciles.

SECTION II

LISTING OF EDUCATIONAL ASSESSMENT MEASURES AND A DESCRIPTION OF THE SCHOOL AND DISTRICT REPORTS

This section consists of two parts. The first part lists the educational assessment measures which are presented in this booklet. (A definition of these assessment measures is included in APPENDIX B.) The second part presents a description of the Local School and District Reports which accompany this document.

Listing of Educational Assessment Measures

For the reader's convenience, the twenty-two measures reported in the Michigan Educational Assessment Program are listed in TABLE I. These measures are grouped into six major categories: (A) Human Resources; (B) District Financial Resources; (C) Student Background; (D) Dropout Rate; (E) Achievement; and (F) Size Measures. Those measures which are newly added since the 1971-72 educational assessment program are indicated by an asterisk (*). Measures substantially changed since the 1971-72 program are indicated by a square (□). Sources of the information used to compute each measure are identified in APPENDIX B.

TABLE I also shows which measures are reported at the district level and which are reported at the school level. Eight of the twenty-two items are reported only at the district level.

As can be seen from TABLE I, two major changes have been made in the measures reported. Variable number twelve, Total Operating Millage, has been added (only at the district level). This information has been included as a possible indication of local support for education.

TABLE I

A LIST OF THE TWENTY-TWO MEASURES REPORTED
AT THE DISTRICT OR SCHOOL LEVELS

MEASURES	DISTRICT	SCHOOL
A. Human Resources		
(1) Professional Instructional Staff per 1,000 Pupils	X	X
(2) Teachers per 1,000 Pupils	X	X
(3) Average Years Teaching Experience	X	X
(4) Percent of Teachers with Master's Degree or Above	X	X
(5) Average Contracted Salary per Teacher☐	X	X
B. District Financial Resources		
(6) State Equalized Valuation per Resident Member (1971-72)	X	
(7) Local Revenue per Pupil (1971-72)	X	
(8) State School Aid per Pupil (1971-72)	X	
(9) K-12 Instructional Expense per Pupil (1971-72)	X	
(10) Elementary Instructional Expense per Pupil (1971-72)	X	
(11) Total Current Operating Expense per Pupil (1971-72)	X	
(12) Total Operating Millage (1971-72)*	X	
C. Student Background		
(13) Percent of Racial-Ethnic Minority Students	X	X
D. Dropout Rate		
(14) School Dropout Rate (1971-72)	X	
E. Achievement (Provided separately for grades 4 and 7)		
(15) Word Relationships	X	X
(16) Reading	X	X
(17) Mechanics of Written English	X	X
(18) Mathematics	X	X
(19) Basic Skills Composite Achievement	X	X
F. Size Measures		
(20) Grade 4 Membership	X	X
(21) Grade 7 Membership	X	X
(22) Total Membership	X	X

NOTE: Undated measures are based on 1972-73 data.

*This measure is new since the 1971-72 educational assessment program.

☐This measure has been substantially changed since the 1971-72 educational assessment program.

The second change in the variables is the omission of a Composite Estimate of Socioeconomic Status (SES) (district and school level). In the past, this information has been gathered first by pupil questionnaires and more recently by principal's questionnaires. Because of the controversy surrounding the pupil questionnaire, its use was discontinued after the January, 1971 test period. Socioeconomic status was estimated by various statistical procedures for purposes of the 1971-72 Program. Since the use of a pupil survey was not authorized by the State Board of Education for the 1972-73 Program, the principal's questionnaire remained as the sole source of data on SES which was readily accessible. Use of these data alone did not appear to be proper, so socioeconomic status is not being reported in the 1972-73 Program.

Description of the District and School Reports

As indicated earlier there are six categories and twenty-two measures reported in the 1972-73 Michigan Educational Assessment Program. The following description uses Michville as a hypothetical school district and Able as a hypothetical school building within the Michville district. The illustrative tables in this report contain fictitious data for this district and school. The measures are arranged in the six groups shown in TABLE I. Similar categories are used throughout the report.

In the Local District Report (TABLE II) most measures are shown as either simple ratios, years, percentages, or dollars. Measures 15 through 19 make up the Achievement category and summarize the scores of the pupils tested throughout the district. Shown for each measure are the means of the pupil scores in the district, their standard deviations, and the numbers of pupils tested. These statistics are reported for both

1972-73 Michigan Educational Assessment Program

LOCAL DISTRICT REPORT

SCHOOL DISTRICT: MICHVILLE PUBLIC SCHOOL CODE NUMBER: 86-010

COMMUNITY TYPE: III TOWNS

SIZE MEASURES: Total Membership: 1,096

Grade 4 membership: 90 Grade 7 membership: 85

HUMAN RESOURCES

Professional instructional staff per 1,000 pupils	54.6
Teachers per 1,000 pupils	43.2
Average years teaching experience	9.4 Yrs.
Percent of teachers with master's degree or above	9.7%
Average contracted salary per teacher□	$9,483

DISTRICT FINANCIAL RESOURCES

State equalized valuation per resident member (1971-72)	$15,590
Local revenue per pupil (1971-72)	346
State school aid per pupil (1971-72)	290
K-12 instructional expense per pupil (1971-72)	381
Elementary instructional expense per pupil (1971-72)	330
Total current operating expense per pupil (1971-72)	598
Total operating millage (1971-72)*	21.21

PERCENT MINORITY

Percent of racial-ethnic minority students	28.2%

DROPOUT RATE

School dropout rate (1971-72)	3.3

ACHIEVEMENT (PROVIDED SEPARATELY FOR GRADES 4 AND 7)

DISTRICT MEANS, STANDARD DEVIATIONS, AND NUMBER TESTED

GRADE FOUR			GRADE SEVEN		
Mean	Standard Deviation	Number of Pupils	Mean	Standard Deviation	Number of Pupils
49.2	9.3	89	50.6	8.7	85
48.5	8.5	89	49.2	9.3	85
49.3	9.3	87	48.0	9.5	85
50.6	8.5	87	48.2	10.3	85
49.8	9.2	87	48.4	8.5	85

DISTRIBUTIONS OF COMPOSITE ACHIEVEMENT SCORES BY DECILE

	DECILES									
	1	2	3	4	5	6	7	8	9	10
GRADE 4										
Standard Scores Within Decile	Below 36.8	36.8-41.1	41.2-45.1	45.2-48.1	48.2-51.1	51.2-53.7	53.8-56.1	56.2-58.7	58.8-61.4	Above 61.4
Percent of Scores Within Decile	9	11	12	11	12	8	8	7	8	14
GRADE 7										
Standard Scores Within Decile	Below 37.2	37.2-41.7	41.8-45.1	45.2-47.7	47.8-50.4	50.5-52.7	52.8-55.4	55.5-57.7	57.8-60.7	Above 60.7
Percent of Scores Within Decile	10	13	14	13	13	9	7	6	7	8

TABLE II

23

* This measure is new since the 1971-72 educational assessment program

□ This measure has been substantially changed since the 1971-72 educational assessment program.

1972-73 Michigan Educational Assessment Program

LOCAL SCHOOL REPORT

SCHOOL ABLE ELEMENTARY SCHOOL CODE 3487

DISTRICT MICHVILLE PUBLIC SCHOOL CODE 86-010

COMMUNITY TYPE III TOWNS

SIZE MEASURES: Total Membership 307

Grade 4 membership 50 Grade 7 membership

HUMAN RESOURCES

Professional instructional staff per 1,000 pupils	48.8
Teachers per 1,000 pupils	38.8
Average years teaching experience	9.1 Yrs.
Percent of teachers with master's degree or above	6.0%
Average contracted salary per teacher □	$9,200

PERCENT MINORITY

Percent of racial-ethnic minority students	39.1%

ACHIEVEMENT (PROVIDED SEPARATELY FOR GRADES 4 AND 7)

SCHOOL MEANS, STANDARD DEVIATIONS, AND NUMBER TESTED

	GRADE FOUR			GRADE SEVEN		
	Mean	Standard Deviation	Number of Pupils	Mean	Standard Deviation	Number of Pupils
Word relationships	50.0	9.7	49			
Reading	48.6	8.5	49			
Mechanics of written English	50.4	8.3	49			
Mathematics	48.6	7.5	49			
Basic skills composite achievement	49.7	8.8	49			

DISTRIBUTIONS OF COMPOSITE ACHIEVEMENT SCORES BY DECILE

	DECILES									
	1	2	3	4	5	6	7	8	9	10
GRADE 4										
Standard Scores Within Decile	Below 36.8	36.8-41.1	41.2-45.1	45.2-48.1	48.2-51.1	51.2-53.7	53.8-56.1	56.2-58.7	58.8-61.4	Above 61.4
Percent of Scores Within Decile	15	16	14	15	12	5	5	4	5	9
GRADE 7										
Standard Scores Within Decile	Below 37.2	37.2-41.7	41.8-45.1	45.2-47.7	47.8-50.4	50.5-52.7	52.8-55.4	55.5-57.7	57.8-60.7	Above 60.7
Percent of Scores Within Decile										

□ This measure has been substantially changed since the 1971-72 educational assessment program.

the fourth and seventh grades. The last three measures, 20 through 22, are Size Measures and are reported as head counts. They are located below the district name, code number and community type on the right side of the report form. At the bottom of the table are decile distributions of composite achievement for all pupils in the district who completed the battery.

The format of Local School Report (TABLE III) is like that of the Local District Report. Lacking financial resource and dropout measures, the Local School Report contains only fourteen measures. The Size Measures for the school appear on the right, below the school and district name and code numbers. Again, some measures are expressed as ratios and percentages, while the five Achievement Measures are described by the mean score, standard deviation and number of pupils tested. Like the district report, the Local School Report concludes with a decile distribution of composite achievement scores by grade for the pupils who completed the battery.

SECTION III

NORM TABLES AND EDUCATION PROFILES

This section is divided into two parts. The first part describes the norm tables which accompany this booklet. The second part explains how the data presented in the district and school reports may be plotted onto the norm tables to develop district-level and school-level education profiles.

Explanation of the Norm Tables

Local school officials will be provided six different norm tables.[1] District norm tables include test data from both the fourth grade and seventh grade. Separate school-level norm tables have been prepared for the fourth and seventh grades. The district and school norm tables are based on available statewide data or community type data for K-12 districts in operation as of January, 1973, as follows:

District Norm Tables

--Michigan, Grades 4 and 7

--Your community type, Grades 4 and 7

School Norm Tables

--Michigan, Grade 4

--Your community type, Grade 4

--Michigan, Grade 7

--Your community type, Grade 7

---

[1] Please note that pupil norms are not included. They will be available in late May, 1973, upon request.

Data from the non K-12 districts are not included in the computation of district and school norms. This step has been taken because data from non K-12 districts have proved sometimes to be erratic or incomplete, particularly in the measures of human and financial resources, and their test results were based on small numbers of pupils. In the past the erratic influence of means based on small numbers has been reduced by eliminating from the norms mean scores for districts and schools testing fewer than five pupils. As a result non K-12 districts have not been fully represented in the norms in the past. It seems preferable to exclude them entirely rather than to have them reflected in some columns and partially or not at all in others. Assessment results for these districts will continue to be reported in the Michigan Educational Assessment Program as they have in the past.

Table IV provides an example of a norm table constructed with fictitious statewide, district-level fourth and seventh grade data.[2] Column 2 on this table indicates that the statewide median (50th percentile) at the district level for teachers per 1,000 pupils was 41.7. The 75th percentile was 45.0. In the bottom three rows of the table are the mean score, standard deviation, and the number of districts used in the preparation of each distribution. For example, the district-level mean for teachers per 1,000 pupils was 42.0, the standard deviation was 5.2, and 528 districts were used in determining these values. The numbers of districts in all columns are not equal due to the unavailability of data for certain districts.

---

[2]Please note that TABLES IV and V are constructed with fictitious data, and these tables should not be used by the local districts for plotting education profiles. Norm tables constructed with actual data are supplied on separate sheets to each district.

TABLE

K-12 DISTRICT NORMS

	HUMAN RESOURCES					DISTRICT FINANCIAL RESOURCES							PERCENT MINORITY
	(1) PROF. INSTRUCTIONAL STAFF PER 1,000 PUPILS	(2) TEACHERS PER 1,000 PUPILS	(3) AVERAGE YEARS TEACHING EXPERIENCE	(4) PERCENT TEACHERS WITH MASTERS DEGREE	(5) AVERAGE CONTRACTED SALARY OF TEACHERS	(6) S E V PER RESIDENT MEMBER (1971-72)	(7) LOCAL REVENUE PER PUPIL (71-72)	(8) STATE SCHOOL AID PER PUPIL (71-72)	(9) K-12 INSTRUCTIONAL EXPENSE PER PUPIL (1971-72)	(10) ELEMENTARY INSTRUCTIONAL EXPENSE PER PUPIL (1971-72)	(11) TOTAL CURRENT OPERATING EXPENSE PER PUPIL (1971-72)	(12) TOTAL OPERATING MILLAGE (1971-72)	(13) PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS
PERCENTILE DISTRIBUTION													
95	60.2												21.8
90	55.2												10.4
85	53.2												7.6
80	51.5	46.1				19112							5.4
75	50.5	45.0				17548							3.7
70	49.4	44.2			10946	16338	419						3.1
65		43.3			9833	15280	396						2.8
60		42.9	10.7		9728	14468	374						2.0
55		42.1	10.3		9615	13487	353					22.69	1.4
50		41.7	9.9	18.9	9502	12837	338					22.11	
45			9.5	17.6	9367		320				636	21.53	
40			9.1	16.4	9222		301	324			625	20.90	
35			8.7	14.8	9013			317	430	416	614	20.28	
30				13.5				308	422	410	592	19.60	
25				11.2				295	414	402	583	18.88	
20				9.7				280	403	384	571		
15				6.3				261	390	371	555		
10				1.8				226	377	346	526		
5									332	291			
MEAN	46.5	42.0	9.6	20.1	9116	15027	382	336	458	425	650	22.11	4.5
STANDARD DEVIATION	6.1	5.2	3.5	12.5	1251	11623	201	87	96	83	142	4.82	10.5
NUMBER OF DISTRICTS	528	528	528	528	528	528	528	528	528	528	528	528	528

FICTITIOUS NORMS

DROP-OUT RATE	ACHIEVEMENT (DISTRICT MEANS)											SIZE MEASURE
	GRADE 4						GRADE 7					
(14) SCHOOL DROPOUT RATE (1971-72)	(15) WORD RELATION-SHIPS	(16) READING	(17) MECHANICS OF WRITTEN ENGLISH	(18) MATHE-MATICS	(19) BASIC SKILLS COMPOSITE ACHIEVE-MENT	(15) WORD RELATION-SHIPS	(16) READING	(17) MECHANICS OF WRITTEN ENGLISH	(18) MATHE-MATICS	(19) BASIC SKILLS COMPOSITE ACHIEVE-MENT	(22) TOTAL MEMBER-SHIP	
				51.4		51.4						
				51.1		50.9						
				50.7		50.6	50.6				1704	
4.2	49.9		50.1	50.4	50.5	50.3	50.3	50.3	49.9	50.2	1568	
3.8	49.7	50.3	49.7	50.1	50.1	50.0	49.9	50.0	49.7	49.8	1262	
3.5	49.5	49.9	49.4	49.7	49.8	49.7	49.7	49.6	49.5	49.4	1118	
3.2	49.2	49.7	49.1	49.3	49.5	49.5	49.4	49.2	49.2	49.0	873	
2.8	48.8	49.1	48.8		49.1	49.0	49.0	48.8	49.0	48.7	706	
2.4	48.1	48.5	48.2		48.5		48.4	48.3	48.6	48.0	540	
	47.1	47.7	47.4		47.8		47.6	47.5	48.1	47.5	302	
		46.6						46.3	46.5	46.7		
5.2	50.6	51.1	50.7	51.1	51.0	50.9	50.9	50.9	51.0	51.0	3551	
2.8	2.9	2.7	2.9	2.9	2.7	2.8	2.8	2.9	2.8	2.7	11503	
521	516	516	516	516	516	520	520	520	520	520	528	

FICTITIOUS NORMS

95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5

PERCENTILE DISTRIBUTION

TABLE V provides an example of a norm table constructed with fictitious statewide school-level fourth grade data.

Explanation of the Michville District-Level Education Profile

The line on TABLE IV is the fourth and seventh grade district-level education profile for Michville. The numbers that have been plotted are the Michville district-level means on the educational assessment measures. This district-level education profile for Michville (TABLE IV) was constructed as follows:

1) Michville's professional instructional staff per 1,000 pupils, 54.6 was taken from the Local District Report (see TABLE II).

2) The point in the professional instructional staff per 1,000 pupils column of the district-level norm table corresponding to 54.6 was marked (see TABLE IV). Michville's rank on this measure was found to fall between 53.2 and 55.2 or at about the 88th percentile of the distribution of district means.

3) Steps one and two were repeated for each measure listed in the Michville District Report. For example, TABLE IV shows that Michville had a score of 43.2 (about the 63rd percentile) on teachers per 1,000 pupils and 9.4 (about the 43rd percentile on average years teaching experience.

4) A line was drawn connecting the points plotted on the norm table (see TABLE IV). This line represents the way in which Michville means compare with the statewide distribution on each measure.

Explanation of the Michville School-Level Education Profiles

Michville's school-level education profiles (TABLE V) were prepared with information from the educational assessment measures gathered at

TABLE V

MICHIGAN

SCHOOL NORMS

(SCHOOLS IN K-12 DISTRICTS ONLY)

GRADE **4**

	HUMAN RESOURCES					PERCENT MINORITY	ACHIEVEMENT (SCHOOL MEANS)					SIZE MEASURE
PERCENTILE DISTRIBUTION	(1) PROF. INSTRUCTIONAL STAFF PER 1,000 PUPILS	(2) TEACHERS PER 1,000 PUPILS	(3) AVERAGE YEARS TEACHING EXPERIENCE	(4) PERCENT TEACHERS WITH MASTERS DEGREE	(5) AVERAGE CONTRACTED SALARY OF TEACHERS	(13) PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS	(15) WORD RELATIONSHIPS	(16) READING	(17) MECHANICS OF WRITTEN ENGLISH	(18) MATHEMATICS	(19) BASIC SKILLS COMPOSITE ACHIEVEMENT	(22) TOTAL MEMBERSHIP
95	60.2					95.1						
90	54.4					40.8						
85	52.1					18.3						
80	49.8					10.2						
75	48.3					6.8						
70	47.2	41.2			9919	4.9						
65	45.9	40.2	11.5		9767	3.7						
60	44.8	39.5	10.9		9614	3.1	51.3		51.5			
55		38.9	10.3		9462	2.6	50.9		51.1			
50		38.3	9.8		9310		50.5		50.6		50.8	367
45		37.7	9.3		9163		50.0		50.1		50.4	345
40		37.3	8.8		9011		49.6	50.1	49.7	50.0	49.9	326
35			8.2	13.7	8868		49.2	49.6	49.2	49.5	49.5	306
30			7.6	11.2				49.0	48.7	48.8	48.9	283
25			7.1	9.8				48.3	48.1	48.1	48.4	259
20				7.4				47.5		47.3		
15				3.1				46.2		46.0		
10				0.3								
5				0.0								
MEAN	43.3	38.6	8.5	20.5	8929	12.0	50.3	50.4	50.3	50.4	50.4	407
STANDARD DEVIATION	6.4	5.0	3.3	15.4	1110	25.7	4.1	4.1	4.1	4.4	4.1	193
NUMBER OF SCHOOLS	2415	2415	2415	2415	2415	2415	2406	2406	2406	2406	2406	2415

FICTITIOUS NORMS

FICTITIOUS NORMS

the school building level (see TABLE I for the listing of school-level measures). Similar to the district data in TABLE IV, the numbers of schools in all columns are not equal. Variations are due to the unavailability of data for certain schools. The procedures used were as follows:

1) Able Elementary School's figure on professional instructional staff per 1,000 pupils, 48.8, was located on the Local School Report (see TABLE III).

2) The appropriate point in the professional instructional staff per 1,000 pupils column of the statewide school norm table was found and marked (see TABLE V). The figure 48.8 was found to fall between 48.3 and 49.8, or near the 77th percentile.

3) Steps one and two were repeated for the means on each variable listed for the Able Elementary School.

4) A line was drawn on the school norm table connecting the points established in steps one, two and three. This line is the profile for Able Elementary School as compared to statewide school norms. The profiles of additional schools may be shown on the same table.

In the same manner, profiles can be drawn to compare Michville district and its schools with other districts and schools of the same community type by using the community type norm tables provided.

Uses of Education Profiles

The introduction to this booklet stated that construction of education profiles would enable school officials and citizens to identify the levels of educational performance and the levels of factors related to performance in a district and its schools in terms of the state as a whole and in terms of other districts and schools of the same community

type. TABLES IV and V provide this information for Michville.

As an example of the potential uses of these data, TABLE IV indicates that fourth grade pupils in the Michville school district scored lowest in the area of reading. This information could be used by the Michville school district officials as a general indicator of a subject area that might need closer examination. Additional data--perhaps from the district's own testing program should be sought to substantiate that a "need" really exists in the area of reading. Then, an analysis of the reading program (i.e, the district's delivery system for reading) would be conducted by the local school district. The results of the local analysis hopefully would indicate appropriate curricular and resource adjustments.

The construction of education profiles similar to those constructed for Michville will enable school officials and citizens throughout Michigan to gain a greater understanding of the relative standing of their district and its schools. This information along with other information will be helpful to local school officials as they make decisions about the allocation of educational resources and the design of curricula.

As a note of caution in constructing and interpreting profiles, the local educator should not assume that the same relative level of scores should be achieved in all twenty-two areas of the Assessment Program. That is, just because a district receives an 85%-tile rank on measure number one (professional instructional staff per 1,000 pupils) does not mean that an 85th percentile level is expected in any other measure. The educational profiles described herein are useful for descriptive purposes

and not necessarily for predictive purposes. The profiles enable one to quickly gain an impression of several characteristics of a school or district through a graphic presentation.

It should be recognized, however, that the cognitive variables can be interpreted in a slightly different manner. Since these variables are more highly interrelated, one might more reasonably expect the score levels to be fairly consistent. The profile line for them will more closely approximate a straight line.

Interpreting Low Scores

After constructing the educational profiles described in the previous sections, the data may very well present some high and low score levels. Low scores usually cause concern among educators and citizens, and, in many cases, the low scores are seen as a condemnation of the schools. This type of interpretation is a misuse of assessment data since the Assessment Program is clearly not an evaluation of the state's schools.

Low scores may be caused by several reasons such as:

1) poor test administration
   a) poor physical setting
   b) inadequate instructions
   c) poor test timing
   d) poor attitude on the part of the test administrator
   e) inadequate pre-test preparations for the students

2) true low achievement of the students

3) low ability level of the students

4) poor teaching

5) inadequate educational resources

6) poor match between test content and instructional program

Any of these possibilities may account for low scores. The local district should seek to substantiate which of them applies to its situation.

Again, low assessment scores may or may not be a condemnation of the local educational system. One cannot justifiably assume that every student in the state begins school at the same level. Therefore, a post-third (or sixth) grade assessment test cannot necessarily be used as an evaluation of the schools. The only safe assumption to be made from low score averages is that for whatever the reason the students are performing at a relative low level compared to others in the state--a clear demonstration of relative "need."

APPENDIX A

LISTING OF MICHIGAN SCHOOL DISTRICTS CLASSIFIED
BY MAJOR COMMUNITY TYPE SERVED

This list contains 604 school districts that were in existence as of December 31, 1972, classified by community type. Of these, 529 were organized to operate K-12 programs. The remaining 75, which are denoted by an asterisk (*), were not organized to operate a K-12 program in 1972-73.

DEFINITIONS

1. Metropolitan Core Cities:

Communities are classified as Metropolitan Core Cities if they meet at least one of the following criteria:

(a) the community is the central city of a Michigan Standard Metropolitan Statistical Area; or

(b) the community is an enclave within the central city of a Michigan Standard Metropolitan Statistical Area.

(c) the community was previously classified as a Metropolitan Core City.

Note: The U.S. Census Bureau defines the central city of a Standard Metropolitan Statistical Area as those cities named in the titles of the Standard Metropolitan Statistical Area. (See U.S. Department of Commerce, Statistical Abstract of the United States [Washington: Bureau of the Census, 1968], p.2.)

2. Cities:

Communities are classified as Cities if they have a population of 10,000 or more and have not been classified as a Metropolitan Core City or Urban Fringe.

3. Towns:

Communities are classified as Towns if they have a population of 2,500 to 9,999. Rural communities impacted by large military installations nearby are also classified as Towns.

4. Urban Fringe:

Communities are classified as Urban Fringe, regardless of their size, if they meet at least one of the following criteria:

(a) the mailing address of the community is a Metropolitan Core City or a City unless it is on a RFD Route; or

(b) the community is within ten miles of the center of a Metropolitan Core City; or

(c) the community is within five miles of the center of a city.

5. Rural:

Communities are classified as Rural if they have a population of less than 2,500, or if their address is an RFD Route of a Town, City, Urban Fringe, or Metropolitan Core, and they lie outside the perimeter defined above under Urban Fringe.

NOTE: No communities in Wayne County are classified rural.

These definitions of community types were established in the fall of 1971. They have been developed to make the classification as objective and consistent as possible without altering the basic principles of classification. All classifications have been made using 1970 census data and the most recent address available for each district.

The numbers preceding school district names are Department of Education county and school district code numbers. The first two digits refer to the county, and the remaining three digits refer to the school district within the county. A key to the county code numbers follows the lists.

COMMUNITY TYPE I - METROPOLITAN CORE

81-010	Ann Arbor City S D
13-020	Battle Creek City Schs
09-010	Bay City S D
82-010	Detroit City S D
25-010	Flint City S D
41-010	Grand Rapids Pub Schs
82-060	Hamtramck City Schs
82-070	Highland Park City Schs
38-170	Jackson Union S D
39-010	Kalamazoo City S D
33-020	Lansing Pub S D
61-010	Muskegon City S D
61-020	Muskegon Heights City S D
63-030	Pontiac City S D
73-010	Saginaw City S D

COMMUNITY TYPE II - CITY

46-010	Adrian City S D
13-010	Albion City Schs
04-010	Alpena City S D
11-010	Benton Harbor City S D
54-010	Big Rapids Public Schs
63-010	Birmingham City S D
21-010	Escanaba Area Pub Schs
82-050	Garden City S D
70-010	Grand Haven City S D
70-020	Holland City S D
82-080	Inkster City S D
82-095	Livonia Pub Schs
52-170	Marquette S D
55-100	Menominee Area Pub Sch
56-010	Midland City S D
58-010	Monroe City Pub Schs
50-160	Mt Clemens Comm S D
37-010	Mt Pleasant City S D
11-300	Niles Comm S D
78-110	Owosso Pub S D
82-100	Plymouth Comm S D
74-010	Port Huron City S D
82-130	Romulus Comm Schs
17-010	Sault Ste Marie Area Schs
11-020	St Joseph City S D
28-010	Traverse City Pub S D
82-170	Wyandotte City S D

COMMUNITY TYPE III - TOWN

74-030	Algonac Comm S D
03-030	Allegan Pub Schs
29-010	Alma Pub Schs
50-040	Anchor Bay S D
32-010	Bad Axe Pub Schs
34-080	Belding Area S D
27-010	Bessemer City S D
46-040	Blissfield Comm Schs
22-030	Breitung Twp S D
11-310	Buchanan Pub S D
83-010	Cadillac Area Pub Schs
79-020	Caro Comm Schs
15-050	Charlevoix Pub S D
23-030	Charlotte Pub Schs
16-015	Cheboygan Area Schs
81-040	Chelsea S D
73-110	Chesaning Union Schs
*32-040	Church Sch
18-010	Clare Pub Schs
12-010	Coldwater Comm Schs
*32-270	Colfax Twp S D 2
*32-290	Colfax Twp S D 6
14-020	Dowagiac Union Schs
78-030	Durand Area Schs
74-050	East China Twp S D
23-050	Eaton Rapids Pub Schs
25-100	Fenton Area Pub Schs
82-180	Flat Rock Comm Schs
73-190	Frankenmuth S D
62-040	Fremont Pub S D
69-020	Gaylord Comm Schs
82-290	Gibraltar S D
21-025	Gladstone Area Pub S D
59-070	Greenville Pub Schs
52-040	Gwinn Area Comm Schs
31-010	Hancock City S D
80-120	Hartford Pub S D
08-030	Hastings Pub S D

COMMUNITY TYPE III con't

30-020	Hillsdale Comm Schs
63-210	Holly Area S D
47-070	Howell Pub Schs
46-080	Hudson Area Schs
70-190	Hudsonville Pub S D
82-340	Huron S D
63-220	Huron Valley Schs
34-010	Ionia Pub Schs
22-010	Iron Mountain City S D
27-020	Ironwood Area Schs
52-180	Ishpeming Pub S D
29-060	Ithaca Pub Schs
07-040	L'Anse Twp S D
25-200	Lake Fenton Sch
63-230	Lake Orion Comm S D
44-010	Lapeer Pub Schs
41-170	Lowell Area Schs
53-040	Ludington Area S D
51-070	Manistee City Schs
77-010	Manistique Area Schs
13-110	Marshall Pub Schs
33-130	Mason Pub Schs
81-100	Milan Area Schs
*49-070	Moran Twp S D
02-070	Munising Pub Schs
52-090	Negaunee S D
11-200	New Buffalo Area S D
22-025	Norway Vulcan Area Schs
63-100	Novi Comm S D
35-010	Oscoda Area Schs
03-020	Otsego Pub Schs
63-110	Oxford Area Comm S D
80-160	Paw Paw Pub S D
24-070	Petoskey S D
03-010	Plainwell Comm Schs
31-110	Portage Twp S D
34-110	Portland Pub S D
50-180	Richmond Comm Schs
63-260	Rochester Comm S D
71-080	Rogers Union S D
50-190	Romeo Comm Schs
17-110	Rudyard Area Schs
*32-610	Sigel Twp S D 3
80-010	South Haven Pub Schs
63-240	South Lyon Comm Schs
41-240	Sparta Area Schs
49-010	St Ignace City S D
19-140	St Johns Pub Schs
29-100	St Louis Pub Schs
75-010	Sturgis City S D
46-140	Tecumseh Pub Schs
75-080	Three Rivers Pub S D
15-025	Twin Valley Pub S D
82-430	Van Buren Pub Schs
79-150	Vassar Pub Schs
27-070	Wakefield Twp S D
63-290	Walled Lake Cons S D
61-240	White Hall Dist Schs
33-230	Williamston Comm Schs
70-350	Zeeland Pub S D

COMMUNITY TYPE IV - URBAN FRINGE

82-020	Allen Park Pub Schs
25-130	Atherton Comm S D
63-070	Avondale S D
09-030	Bangor Twp Schs
19-100	Bath Comm Schs
58-030	Bedford Pub S D
25-240	Beecher S D
25-060	Bendle Pub S D
25-230	Bentley Comm S D
63-050	Berkley City S D
63-080	Bloomfield Hills S D
11-210	Brandywine Pub S D
73-180	Bridgeport Comm S D
73-080	Buena Vista S D
56-020	Bullock Creek S D
25-080	Carman S D
73-030	Carrollton S D
50-010	Center Line Pub Schs
82-025	Cherry Hill S D
50-080	Chippewa Valley Schs
*52-020	Chocolay Twp S D
63-150	City of Troy S D
63-090	Clarenceville S D
63-270	Clawson City S D
50-070	Clintondale Pub Schs
39-030	Comstock Pub Schs
41-080	Comstock Park S D
78-100	Corunna Pub S D
82-230	Crestwood S D
25-140	Davison Comm Schs
19-010	De Witt Pub Schs
82-030	Dearborn City S D

COMMUNITY TYPE IV - URBAN FRINGE con't

82-040 Dearborn Heights S D 7
81-050 Dexter Comm S D
41-090 East Grand Rapids Pub Schs
50-020 East Detroit City S D
38-090 East Jackson Pub Schs
33-010 East Lansing S D
82-250 Ecorse Pub S D
09-050 Essexville Hampton S D
63-200 Farmington Pub S D
63-020 Ferndale City S D
50-090 Fitzgerald Pub Schs
25-120 Flushing Comm Schs
41-110 Forest Hills Pub Schs
50-100 Fraser Pub Schs
*61-420 Fruitland Twp S D 1F
61-080 Fruitport Comm Schs
39-050 Galesburg Augusta Comm S D
25-070 Genesee S D
41-120 Godfrey Lee Pub S D
41-020 Godwin Heights Pub Schs
25-030 Grand Blanc Comm Schs
23-060 Grand Ledge Pub Schs
41-130 Grandville Pub Schs
38-050 Grass Lake Comm Schs
82-300 Grosse Ile Twp Schs
82-055 Grosse Pte Pub Schs
13-070 Harper Creek Comm Schs
82-320 Harper Woods City S D
33-060 Haslett Pub Schs
63-130 Hazel Park City S D
33-070 Holt Pub Schs
58-080 Jefferson Cons S D
70-175 Jenison Pub Schs
25-110 Kearsley Comm Schs
41-140 Kelloggsville Pub Schs
41-145 Kenowa Hills Pub Schs
41-160 Kentwood Pub Schs
50-140 L'Anse Creuse Pub Schs
50-120 Lake Shore Pub Schs
11-030 Lakeshore S D
13-090 Lakeview Cons S D
50-130 Lakeview Pub Schs
63-280 Lamphere Schs
81-070 Lincoln Cons S D
82-090 Lincoln Park City Schs
63-140 Madison Heights S D
*52-060 Marquette Twp S D
74-100 Marysville Pub S D
82-045 Melvindale North Allen Park S D
38-120 Michigan Center S D
61-060 Mona Shores S D
25-040 Mt Morris Cons Schs
38-130 Napoleon S D
82-220 North Dearborn Heights S D
61-230 North Muskegon City S D
41-025 Northview Pub Sch
82-390 Northville Pub Schs
38-140 Northwest S D
63-250 Oak Park City S D
61-065 Oakridge S D
33-170 Okemos Pub Schs
*23-490 Oneida Twp S D 3
61-190 Orchard View Schs
39-130 Parchment S D
13-120 Pennfield S D
39-140 Portage Pub Schs
82-110 Redford Union S D
61-220 Reeths Puffer Schs
82-120 River Rouge City Schs
82-400 Riverview Comm S D
50-030 Roseville Comm Schs
63-040 Royal Oak City S D
73-040 Saginaw Twp Comm Schs
81-120 Saline Area S D
50-200 South Lake Schs
82-140 South Redford S D
63-060 Southfield Pub S D
82-405 Southgate Comm S D
70-300 Spring Lake Pub S D
13-030 Springfield City S D
73-255 Swan Valley S D
25-180 Swartz Creek Comm S D
82-150 Taylor S D
82-155 Trenton Pub Schs
50-210 Utica Comm Schs
50-220 Van Dyke Comm Schs
38-020 Vandercook Lake Pub S D
50-230 Warren Cons Schs
50-240 Warren Woods Pub Schs
63-300 Waterford S D
33-215 Waverly Schs
82-160 Wayne-Westland Comm Schs
63-160 West Bloomfield Twp S D
70-070 West Ottawa Pub S D
38-010 Western S D
82-240 Westwood Comm Schs
25-210 Westwood Heights S D
81-140 Whitmore Lake Pub S D
81-150 Willow Run Pub Schs
82-365 Woodhaven S D
41-026 Wyoming Pub Schs
81-020 Ypsilanti City S D

COMMUNITY TYPE V - RURAL

31-020	Adams Twp S D
46-020	Addison Comm Schs
58-020	Airport Comm S D
79-010	Akron Fairgrove Schs
05-010	Alba Pub Sch
01-010	Alcona Comm Schs
70-040	Allendale Pub S D
*42-010	Allouez Twp Schs
44-020	Almont Comm Schs
06-010	Arenac Eastern S D
50-050	Armada Area Schs
*07-010	Arvon Twp S D
29-020	Ashley Comm Schs
13-050	Athens Area Schs
60-010	Atlanta Comm Schs
06-020	Au Gres Sims S D
*02-010	Au Train Twp Sch
43-040	Baldwin Pub S D
21-040	Baldwin Twp Schs
80-020	Bangor Pub Schs
*80-240	Bangor Twp S D 8
07-020	Baraga Twp S D
21-090	Bark River Harris S D
37-040	Beal City S D
51-020	Bear Lake Sch
15-010	Beaver Island Comm Schs
26-010	Beaverton Rural Schs
05-040	Bellaire Pub Sch
23-010	Bellevue Comm Schs
10-015	Benzie County Central Schs
66-010	Bergland Comm S D
*34-140	Berlin Twp S D 3F
*34-150	Berlin Twp S D 5F
11-240	Berrien Springs Pub S D
*27-030	Bessemer Twp S D
21-065	Big Bay de Noc S D
*62-470	Big Jackson S D
73-170	Birch Run Area S D
*32-220	Bloomfield Twp S D 4
*32-230	Bloomfield Twp S D 5
*32-250	Bloomfield Twp S D 7F
80-090	Bloomingdale Pub S D
*49-020	Bois Blanc Pines S D
15-030	Boyne Falls Pub S D
63-180	Brandon Twp S D
29-040	Breckenridge Comm Schs
*49-030	Brevort Twp S D
11-340	Bridgman Pub Sch
47-010	Brighton Area Schs
17-140	Brimley Pub Schs
46-050	Britton Macon Area Sch
12-020	Bronson Comm S D
76-060	Brown City Comm S D
28-035	Buckley Comm S D
*44-190	Burnside Twp S D 10F
75-020	Burr Oak Comm S D
02-020	Burt Twp Sch
78-020	Byron Area Schs
41-040	Byron Center Pub Schs
41-050	Caledonia Comm Schs
31-030	Calumet Pub S D
*31-040	Calumet Twp S D 2
30-010	Camden Frontier Sch
*34-250	Campbell Twp S D 4
74-040	Capac Comm S D
55-010	Carney Nadeau Pub Schs
59-020	Carson City Crystal Area S D
76-070	Carsonville Comm S D
*03-250	Casco Twp S D 4
32-030	Caseville Pub Sch
79-030	Cass City Pub Schs
14-010	Cassopolis Pub Schs
41-070	Cedar Springs Pub Schs
15-035	Central Lake Pub Sch
59-125	Central Montcalm Pub Schs
75-030	Centreville Pub S D
31-050	Chassell Twp S D
54-025	Chippewa Hills S D
63-190	Clarkston Comm S D
39-020	Climax Scotts Comm Schs
46-060	Clinton Comm Schs
25-150	Clio Area S D
56-030	Coleman Comm S D
*32-260	Colfax Twp S D 1F
*32-300	Colfax Twp S D 7 (closed)
11-330	Coloma Comm Schs
75-040	Colon Comm S D
38-040	Columbia S D
38-080	Concord Comm Schs
75-050	Constantine Pub S D
70-120	Coopersville Pub S D
80-040	Covert Pub Schs
*07-030	Covington S D
20-015	Crawford Au Sable Schs
*24-010	Cross Village S D
76-080	Croswell Lexington Comm S D
33-040	Dansville Ag Sch
80-050	Decatur Pub Schs
76-090	Deckerville Comm S D
46-070	Deerfield Pub Schs
08-010	Delton Kellogg S D
17-050	De Tour Twp Sch

44-050	Dryden Comm Schs
58-050	Dundee Comm S D
*34-340	Easton Twp S D 6F
11-250	Eau Claire Pub S D
*13-060	Eckford Comm Schs
14-030	Edwardsburg Pub Schs
05-060	Elk Rapids Schs
32-050	Elkton Pigeon Bayport S D
15-065	Ellsworth Comm Sch
*31-070	Elm River Twp Sch
49-055	Engadine Cons Schs
67-020	Evart Pub Sch
66-045	Ewen Trout Creek Cons S D
*40-060	Excelsior Twp S D 1
68-030	Fairview S D
*57-010	Falmouth Elem S D
18-020	Farwell Area Schs
03-050	Fennville Pub Schs
*64-030	Ferry Comm S D
*28-060	Fife Lake Comm S D
36-015	Forest Park S D
19-070	Fowler Pub Schs
47-030	Fowlerville Comm Schs
10-025	Frankfort Area Schs
*13-340	Fredonia Twp S D 2F
73-200	Freeland Comm S D
53-030	Freesoil Comm S D
29-050	Fulton Schs
11-160	Galien Twp Sch
*03-440	Ganges Twp S D 4
*40-110	Garfield Twp S D 3F (closed)
72-010	Gerrish Higgins S D
26-040	Gladwin Comm Schs
45-010	Glen Lake Comm S D
80-110	Gobles Pub S D
*44-240	Goodland Twp S D 1
*44-260	Goodland Twp S D 2
25-050	Goodrich Area S D
62-050	Grant Pub S D
*42-030	Grant Twp Schs
*28-220	Green Lake Twp S D 1F
39-065	Gull Lake Comm Schs
*11-670	Hagar Twp S D 6
35-020	Hale Area Schs
03-100	Hamilton Comm Schs
*80-390	Hamilton Twp S D 6 (closed)
38-100	Hanover Horton Schs
32-060	Harbor Beach Comm Schs
24-020	Harbor Springs S D
18-060	Harrison Comm Schs
64-040	Hart Pub S D
47-060	Hartland Cons Sch
73-210	Hemlock Pub S D
62-060	Hesperia Comm S D
60-020	Hillman Comm Schs
61-120	Holton Pub Schs
13-080	Homer Comm Schs
03-070	Hopkins Pub Sch
72-020	Houghton Lake Comm Schs
58-070	Ida Pub S D
44-060	Imlay City Comm Schs
16-050	Inland Lakes S D
*34-360	Ionia Twp S D 2F
*34-380	Ionia Twp S D 5
69-030	Johannesburg Central Sch
30-030	Jonesville Comm Schs
51-045	Kaleva Norman Dickson Schs
40-040	Kalkaska Pub Schs
41-150	Kent City Comm Schs
28-090	Kingsley Area S D
79-080	Kingston Comm Schs
78-040	Laingsburg Comm S D
57-020	Lake City Area S D
31-130	Lake Linden Hubbell S D
59-090	Lakeview Comm Schs
25-280	Lakeville Comm S D
34-090	Lakewood Pub Schs
80-130	Lawrence Pub S D
80-140	Lawton Comm S D
45-020	Leland Pub S D
49-040	Les Cheneaux Comm S D
33-100	Leslie Pub Schs
*02-050	Limestone Twp Sch
25-250	Linden Comm S D
30-040	Litchfield Comm Schs
24-030	Littlefield Pub S D
49-110	Mackinac Island Pub S D
16-070	Mackinaw City Pub Schs
46-090	Madison Sch
05-070	Mancelona Pub Sch
81-080	Manchester Pub S D
83-060	Manton Cons S D
23-065	Maple Valley S D
14-050	Marcellus Comm Schs
27-060	Marenisco S D
67-050	Marion Pub Sch
*13-095	Mar-Lee Cons S D
76-140	Marlette Comm S D
03-060	Martin Pub Schs
53-010	Mason County Central S D
53-020	Mason County Eastern S D
58-090	Mason Cons S D

02-060 Mathias Twp Sch
80-150 Mattawan Cons S D
79-090 Mayville Comm Schs
57-030 McBain Rural Ag S D
74-120 Memphis Comm Schs
75-060 Mendon Comm S D
56-050 Meridian Pub S D
73-230 Merrill Comm S D
83-070 Mesick Cons S D
79-100 Millington Comm Schs
68-010 Mio Au Sable S D
59-045 Montabella Comm S D
61-180 Montague Pub Schs
25-260 Montrose Twp Schs
46-100 Morenci Area Schs
54-040 Morley Stanwood Comm Schs
78-060 Morrice Area Schs
*75-300 Mottville Twp S D 3F
50-170 New Haven Comm Schs
78-070 New Lothrop Area Pub S D
62-070 Newaygo Pub S D
52-015 NICE Comm Schs
30-050 North Adams Pub Schs
44-090 North Branch Area Schs
55-115 North Central Area Schs
22-045 North Dickinson County S D
32-080 North Huron Schs
*34-480 North Plains Twp S D 1F
45-040 Northport Pub S D
*75-100 Nottawa Comm Schs
*40-140 Oliver Twp S D 2
23-080 Olivet Comm Schs
71-050 Onaway Area Comm S D
51-060 Onekama Cons Sch
46-110 Onsted Comm Schs
66-050 Ontonagon Area Schs
*34-600 Orleans Twp S D 9
*34-610 Orleans Twp S D 10
31-100 Osceola Twp S D
19-120 Ovid Elsie Area Schs
32-090 Owendale Gagetown Area S D
*34-040 Palo Comm S D
76-180 Peck Comm Sch
24-040 Pellston Pub S D
64-070 Pentwater Pub S D
78-080 Perry Pub S D
19-125 Pewamo Westphalia Comm S D
17-090 Pickford Pub Schs
47-080 Pinckney Comm Schs
09-090 Pinconning Area Schs
67-055 Pine River Area Schs
*62-080 Pineview S D
30-060 Pittsford Rural Ag Schs
32-120 Port Austin Pub Schs
32-130 Port Hope Comm Schs
*34-710 Portland Twp S D 5F
71-060 Posen Cons S D
23-090 Potterville Pub Schs
*52-100 Powell Twp S D
12-040 Quincy Comm S D
21-060 Rapid River Pub Schs
61-210 Ravenna Pub Schs
30-070 Reading Comm Schs
*32-140 Red Sch
67-060 Reed City Pub Schs
79-110 Reese Pub Schs
52-110 Republic Michigamme Schs
11-033 River Valley S D
21-130 Rock Pub S D
02-080 Rock River Twp Sch
41-210 Rockford Pub Schs
*34-750 Ronald Twp S D 8 (closed)
*23-690 Roxand Twp S D 12
46-130 Sand Creek Comm Schs
*52-130 Sands Twp S D
76-210 Sandusky Comm S D
*76-710 Sanilac Twp S D 1
34-120 Saranac Comm S D
03-080 Saugatuck Pub Schs
39-160 Schoolcraft Comm Schs
79-145 Sebewaing Unionville Schs
64-080 Shelby Pub S D
37-060 Shepard Pub S D
*32-530 Sheridan Twp S D 4
*32-540 Sheridan Twp S D 5
*32-620 Sigel Twp S D 4
*32-630 Sigel Twp S D 6
*11-830 Sodus Twp S D 5
*40-020 South Boardman Area Sch
38-150 Springport Pub Sch
73-240 St Charles Comm S D
*49-100 St Ignace Twp S D
06-050 Standish Sterling Comm S D
*31-140 Stanton Twp S D
55-120 Stephenson Area Pub Schs
33-200 Stockbridge Comm Schs
58-100 Summerfield S D
45-050 Suttons Bay Pub S D
48-040 Tahquamenon Area Schs
35-030 Tawas Area Schs
13-130 Tekonsha Comm Sch
08-050 Thornapple Kellogg S D

COMMUNITY TYPE V - RURAL con't

59-080	Tri-County Area Schs	33-220	Webberville Pub Schs
32-170	Ubly Comm Schs	*52-160	Wells Twp S D
13-135	Union City Comm S D	65-045	West Branch Rose City Area Schs
69-040	Vanderbilt Area Sch	36-025	West Iron County S D
*32-650	Verona Twp S D 1F	62-090	White Cloud Pub Schs
59-150	Vestaburg Comm Schs	66-070	White Pigeon Comm S D
39-170	Vicksburg Comm Schs	75-070	White Pine S D
30-080	Waldron Area Schs	17-160	Whitefish Sch
64-090	Walkerville Rural Comm S D	58-110	Whiteford Ag S D
27-080	Watersmeet Twp S D	35-040	Whittemore Prescott Area S D
11-320	Watervlier S D	16-100	Wolverine Comm S D
03-040	Wayland Union Schs	74-130	Yale Pub S D

COUNTY CODE NUMBERS

01	Alcona	29	Gratiot	57	Missaukee
02	Alger	30	Hillsdale	58	Monroe
03	Allegan	31	Houghton	59	Montcalm
04	Alpena	32	Huron	60	Montmorency
05	Antrim	33	Ingham	61	Muskegon
06	Arenac	34	Ionia	62	Newaygo
07	Baraga	35	Iosco	63	Oakland
08	Barry	36	Iron	64	Oceana
09	Bay	37	Isabella	65	Ogemaw
10	Benzie	38	Jackson	66	Ontonagon
11	Berrien	39	Kalamazoo	67	Osceola
12	Branch	40	Kalkaska	68	Oscoda
13	Calhoun	41	Kent	69	Otsego
14	Cass	42	Keweenaw	70	Ottawa
15	Charlevoix	43	Lake	71	Presque Isle
16	Cheboygan	44	Lapeer	72	Roscommon
17	Chippewa	45	Leelanau	73	Saginaw
18	Clare	46	Lenawee	74	St Clair
19	Clinton	47	Livingston	75	St Joseph
20	Crawford	48	Luce	76	Sanilac
21	Delta	49	Mackinac	77	Schoolcraft
22	Dickinson	50	Macomb	78	Shiawassee
23	Eaton	52	Manistee	79	Tuscola
24	Emmet	52	Marquette	80	Van Buren
25	Genesee	53	Mason	81	Washtenaw
26	Gladwin	54	Mecosta	82	Wayne
27	Gogebic	55	Menominee	83	Wexford
28	Grand Traverse	56	Midland		

APPENDIX B

DEFINITIONS OF THE EDUCATIONAL ASSESSMENT MEASURES

The twenty-two measures reported in the 1972-73 Michigan Educational Assessment Program are defined below. One measure, total operating millage, has been added since the 1971-72 program. Another measure, composite estimate of socioeconomic status, has been deleted since the 1971-72 program. In addition, the definition of average contracted salary of teachers is different from that which was used in 1971-72.

Human Resources

1. Professional instructional staff per 1,000 pupils. The information to compute this measure was taken from the 1972 "Fourth Friday Report." The total number of professional instructional staff was obtained by adding the number of elementary and secondary staff (expressed as full time equivalency) in the following categories; principals, assistant principals, other administrators, (excluding district-wide administrative staff), consultants and supervisors, classroom teachers, librarians, audio-visual staff, guidance personnel and school counselors, psychological staff, radio and television instructional staff, teachers of the homebound, and other instructional staff. The total number of pupils was obtained by counting all pupils enrolled in grades one through twelve except special education pupils. Pupils who attended the school for a portion of the day and attended a non-public school for the remainder of the day were included on a full time equivalency basis. For example, a pupil who attended the school for one-fourth of each day and attended

a non-public school for the other three-fourths of each day was counted as one-fourth pupil. In order to obtain the number of professional instructional staff per 1,000 pupils, the total number of professional instructional staff was multiplied by 1,000 and divided by the total number of pupils.

2. Teachers per 1,000 pupils. The information to compute this measure was taken from the 1972 "Fourth Friday Report." The total number of teachers was obtained by adding the number of elementary and secondary classroom teachers. Kindergarten teachers, special education teachers, and non-classroom teachers were not included in the total. The total number of pupils was obtained by counting all pupils enrolled in grades one through twelve except special education pupils. Pupils who attended the school for a portion of the day and attended a non-public school for the remainder of the day were included on a full time equivalency basis. In order to obtain the number of teachers per 1,000 pupils the total number of teachers was multiplied by 1,000 and divided by the total number of pupils.

3. Average years teaching experience. The information to compute this measure was taken from the 1972 "Fourth Friday Report." The average was obtained by dividing the total years of teaching experience of full time classroom teachers who work only in a school by the number of such teachers in that school. District levels averages were obtained by adding the total years of experience for all schools in the district and dividing by the sum of the full time classroom teachers in all schools in the district.

4. Percent of teachers with master's degree. The information to compute this measure was taken from the 1972 "Fourth Friday Report." It was obtained by dividing the number of full time classroom teachers who had completed all of the requirements for a master's degree by the total number of full time classroom teachers. The resultant value was multiplied by 100 to convert to a percent figure.

5. Average contracted salary of teachers. The information necessary to compute this measure was taken from the 1972 "Fourth Friday Report." It was obtained by dividing the total annual contractual salaries paid to full-time classroom teachers who work only in a school by the number of such teachers in that school. District level averages were obtained by adding the total annual contractual salaries for all schools in the district and dividing by the sum of full-time classroom teachers in all schools in the district.

The average salary of teachers in 1971-72 did not include supplemental payments such as payments for coaching, summer school, department head bonus, etc. The salary figures reported for 1972-73 include such payments insofar as such payments were part of the contractual agreement between teacher and school district.

School District Financial Resources

6. State equalized valuation per resident member (1970-71). The information to compute this measure was taken from records filed with the Michigan Department of Education. The total state equalized valuation (SEV) is equal to approximately 50 percent of the fair cash value of the

real and personal property in the district. It is calculated as of May 26, 1971 (the fourth Monday in May) and applied to the 1971-72 academic year. In order to obtain a per pupil value for SEV, the total SEV was divided by resident membership for the 1971-72 academic year. Resident membership, obtained from the 1971-72 "Fourth Friday Report," includes all pupils residing in the district who attended public school in that district or in any other district; resident membership excludes pupils who attended school in the district but resided in another district, as well as excluding pupils who attended private or parochial schools.

7. Local revenue per pupil 1971-72. The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial information was reported in the Annual School District Financial Report for the fiscal year which ended June 30, 1972. The total value for local revenue included revenue from sources such as the following: property tax (the major source of local revenue), local government appropriations, tuition, transportation fees, revolving funds (i.e., revenue from food services, book stores, and student body activities), rent from school facilities, etc. Tuition from community college patrons was not included in the calculation. In order to obtain local revenue per pupil, total local revenue was divided by the state aid membership (the total number of pupils enrolled in the district as of October 1, 1971, the Fourth Friday after Labor Day).

8. State school aid per pupil 1971-72. The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial data were taken from the Annual School District Financial Report for the

fiscal year which ended June 30, 1972. The value for total state school aid represented the direct appropriations from the state, including appropriations for state school aid, driver education, underprivileged children, and other state grants. In order to compute the state school aid per pupil, the total state school aid was divided by 1971-72 state aid membership.

9. K-12 instructional expense per pupil 1971-72. The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial information was reported in the Annual School Financial Report for the fiscal year which ended June 30, 1972. The total K-12 instructional expense included expenditures for salaries and supplies connected with elementary education, secondary education, special education, summer school, and adult education. Expenditures associated with community colleges were omitted from the calculation. In order to obtain a value for instructional expense per pupil, total K-12 instructional expense was divided by the 1971-72 state aid membership.

10. Elementary instructional expense per pupil 1971-72. The information to compute this measure was taken from financial reports provided by the local districts and filed with the Michigan Department of Education. Financial information was reported in the Annual School District Financial Report for the fiscal year which ended June 30, 1972. The elementary instructional expense included expenditures for salaries and supplies connected with elementary education. In order to obtain a value for elementary instructional expense per pupil for districts organized to operate a high school, total elementary instructional expense was divided by the elementary state aid membership, taken from the 1971-72 "Fourth

Friday Report." For districts not organized to operate a high school (i.e., those that operate no grade above grade 8) total elementary instructional expense was divided by the K-8 state aid membership. Pre-kindergarten and special education pupils were not included.

11. Total current operating expense per pupil (1971-72). The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial information was reported in the Annual School District Financial Report for the fiscal year which ended June 30, 1972. The total current operating expense included expenses connected with administration, attendance, health services, pupil transportation, plant operation, plant maintenance, and fixed charges in addition to instructional expenses (including elementary, secondary, special education, summer school, and adult education instructional expenses). Community college expenses were not included in the computation of total operating expense. The value for total current operating expense was divided by the 1971-72 state aid membership.

12. Total operating millage (1971-72). The information to compute this measure was taken from records provided by intermediate districts and filed with the Michigan Department of Education. Millage information was reported on the form "1971-72 Tax Levies of School Districts Based on 1971 State Equalized Valuation" submitted to the Department in November of 1971 for the 1971-72 school year. Total operating millage is the tax rate in mills applied to the state equalized valuation of a district to produce revenue for the operation of its schools (not including building and site or debt retirement millage).

Percent Minority

13. Percent of racial-ethnic minority students. Percent of racial-ethnic minority students was computed for each school in the state. The information to compute this measure was taken from the 1972 "Fourth Friday Report." The total number of racial-ethnic minority students included all racial-ethnic minority students in the school. Pre-kindergarten students, kindergarten students, special education students and part-time students were all included in the total. Since the information was expressed in terms of a head count, part time students were not counted differently from full time students. Students were classified as belonging to a racial-ethnic minority group if they were considered by the school to be of that group. Pre-kindergarten students, kindergarten students, special education students, and part time students were included in the total. In order to calculate the percent of racial ethnic minority students, the total number of racial-ethnic minority students was divided by the total number of students and the resultant figure was multiplied by 100.

Dropout Rate (1971-72)

14. School dropout rate. School dropout rate was computed from information taken from records provided by the local districts and filed with the Michigan Department of Education. The measure was based on figures from the local districts' School Dropout Report and enrollment of students in grades 9-12 during the 1971-72 academic year. Included

as dropouts were students who left school for any of the following reasons: married, sent to corrective institutions, accepted employment, or dropped from attendance roll because absent 10-30 days. Not included as dropouts were students who left the district because they transferred to another district, were sent to institutions for defectives, or the student was sick or died. The dropout rate is calculated by dividing the number of dropouts by the sum of the number of students enrolled in grades 9-12 on the "Fourth Friday" plus new students enrolled during the year, computed from the 1971-72 School Dropout Report. The resultant figure was multiplied by 100.

Achievement

15. Word relationships. The fourth grade word relationships test contained 45 verbal analogy problems which were designed to measure students' knowledge of the meaning of words and the relationships between words and concepts. Twenty minutes were allowed to work on the test. The seventh grade test contained 38 questions of the same type. The time allowed to work on this test was 15 minutes.

16. Reading. The fourth grade reading test contained 50 questions which assessed paragraph comprehension, ability to understand words from the context in which they are encountered, and ability to identify the correct synonym for a word. Students at the fourth grade level were allowed 35 minutes to work on this test. The seventh grade test was similar in content but contained 60 questions to be answered in 40 minutes.

17. Mechanics of written English. The mechanics of written English test consisted of three parts for fourth graders, and three parts for

seventh graders, each separately timed. In part A, spelling, students were to identify misspelled words. The fourth grade test presented 15 items to be completed in 5 minutes; the seventh grade test presented 20 items to be completed in 6 minutes. Part B, effectiveness of written expression required students to select the best way of expressing a thought or the best word or phrase to complete a sentence. The fourth grade test contained 28 items while the seventh grade test contained 30 items; all pupils were allowed 17 minutes to complete part B. Recognizing errors of punctuation and capitalization was the object of part C. The fourth grade booklet had 12 items and allowed 8 minutes, and the seventh grade booklet had 14 items and allowed 7 minutes.

18. Mathematics. The mathematics test at both grade levels involved mathematical reasoning, problem solving and computation. In addition, problems in the seventh grade test involved algebraic and geometric concepts. Pupils at both grade levels had 30 minutes in which to answer 40 questions.

19. Composite achievement. A composite achievement score was computed for each student. The composite score was obtained by averaging the individual's standard scores on the reading, the mechanics of written English, and the mathematics tests. The test scores were combined in this way so that each score would contribute equally to the average--despite the fact that the number of items was different on the three tests.

It should be noted that the word relationships test score was not included in the calculation of the composite achievement score. Analogies, as those contained in the word relationships test are not a common subject

of direct instruction. Further, the word relationships score is believed to respond more slowly than the other scores to the influence of schooling and may be considered to be a measure of developed verbal ability. Therefore, it was excluded to focus the composite achievement score upon those aspects of basic skills achievement that respond most readily to instruction.

Size Measures

20. Grade 4 membership. Grade 4 membership was obtained by counting all full time pupils enrolled in grade 4 except special education pupils.

21. Grade 7 membership. Grade 7 membership was obtained by counting all full time pupils enrolled in grade 7 except special education pupils.

22. Total membership. Total membership was obtained by counting all full time pupils in all grades operated by the district from kindergarten through the 12th grade, except special education pupils.